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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/354,815	07/16/1999	TOSHIYUKI TANAKA	15162/00790	5615

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/354,815

Applicant(s)

TANAKA, TOSHIYUKI

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/16/2004 with respect to claims 1-3, 6-8, 11-13 have been fully considered but they are not persuasive.

Regarding independent claim 1, the Applicant asserts that Uehara does not disclose an exposure amount for a next frame based on light-quantity data of a previous frame and that the previous brightness values are not used to compute the aperture control value for the next frame.

In response, the Examiner respectfully disagrees. As shown in Fig. 16, col. 10, line 40 – col. 11, line 11, the correlation between the photometry results from a previous frame and a next frame are performed (at step S6) to determine an appropriate aperture value for the next frame. It is clearly seen that although a comparison is made as whether the previous control aperture value is equal to the previous control aperture value, the control aperture value is always calculated from the brightness values output from the photometric element 27. Importantly, *the claim does not require the exposure amount of the image pickup element is directly based on the light quantity data of a previous frame.* Therefore, the control aperture value for the next frame is *indirectly* based on the previous brightness value by virtue of the previous aperture value as disclosed.

Regarding independent claims 6 & 11, the Examiner respectfully submits the same explanation provided above.

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2. Applicant's arguments with respect to claims 4-5, 9-10, 14-15 have been considered but are moot in view of the new ground of rejection since claims 4, 9 and 14 have been amended that clearly change the scope of the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-8, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima et al (US 6,427,423) in view of Uehara et al (US 5,459,511).

Regarding claim 1, Ejima discloses a digital camera having a sequence-photograph mode (i.e., **one** of continuous modes with LCD closed) and other modes (i.e., a single mode S with LCD open and other continuous modes L, H with LCD open) as shown in Figs. 1-3, col. 4, lines 38-57 and col. 9, lines 7-61; the digital camera comprising:

an image pick-up element (20) for receiving light reflected from an object and outputting image data of the object (Fig. 6);

a light-receiving element (16, 51) for outputting data as to a light quantity received from the object, the light-receiving element being different from the image pick-up element (Fig. 6);

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a first controller (39) for controlling an exposure amount (i.e., brightness value affected by aperture stop 54 and electronic shutter) of the image pick-up element for a next frame in a sequence of photographs based on the light-quantity data output from the light receiving in the sequence photograph mode (see Fig. 6; col. 6, line 64 – col. 7, line 30; col. 8, lines 24-38 and col. 9, lines 7-22 and note that when LCD is closed, the exposure amount is calculated based on the output from photometric 51);

a second controller (33, 39) for controlling the exposure amount (brightness value) of the image pick-up element based on the image data output from the image pick-up element in the other modes (see Fig. 6; col. 8, lines 39-53 and note that the electronic shutter is controlled by using the feedback loop at CCD driving circuit 34 from DSP 33 as described in col. 6, lines 13-17).

Ejima does not explicitly disclose that the exposure amount of the image pick-up element for the next frame in the sequence of photographs is calculated based on the light quantity data of a previous frame output from the light-receiving element in the sequence-photograph mode. As taught by Uehara, an exposure amount of the image sensor (39) for a next frame, such as an aperture stop value for the next frame, is calculated based on the difference in photometry results between a previous frame and a next frame output of the photometric element (27) by virtue of comparison of control aperture values of the previous frame and the next frame in a continuous shooting mode (see Uehara, Fig. 16, col. 10, line 57 – col. 11, line 36). The teaching of Uehara is to enhance the exposure control of the image sensor by controlling aperture in short time period for a higher speed continuous shooting to be made possible as compared to conventional cameras.

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Therefore, it would have been obvious to one of ordinary skill in the art to modify Ejima to include the teaching of Uehara for exposure control when the LCD is closed such that the exposure amount for the next frame (i.e., a previous aperture value plus a compensation value) is determined based on the light-quantity data output from photometric element in the previous frame and the next frame in the continuous shooting mode. Such the modification would reduce the time for controlling an exposure amount of the image sensor and increase continuous shooting speed.

Regarding claim 2, Ejima shows a CCD (20) in Fig. 6

Regarding claim 3, Ejima discloses that a charge accumulation time of the CCD (brightness affected by electronic shutter) is controlled by the second controller based on the image data output from the image pick-up element (20) as shown in Fig. 6 and col. 8, lines 39-53 and note the feedback loop at the CCD driving circuit (34) for controlling electronic shutter of the CCD.

Regarding claims 6 - 8, see the Examiner's analysis in claims 1-3, respectively.

Regarding claims 11-13, see the Examiner's analysis in claims 1-3, respectively.

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4. Claims 4-5, 9-10, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejima et al (US 6,427,423) in view of Uehara et al (US 5,459,511) and in further view of Aoki et al (US 5,424,772).

Regarding claim 4, Ejima further discloses parameters of a strobe (4) to be controlled by the CPU 39 and strobe driving circuit 37 (a third controller) for emitting a light (col. 7, lines 31-32). However, Ejima and Uehara do not explicitly teach that the strobe is controlled based on the light-quantity data output from the light-receiving element in the other modes.

Aoki teaches that photometric value (light quantity data) output from a photometric element is measured. If the photometric value is lower than a predetermined value, i.e., object to be photographed is dark, the strobe control circuit 53 is initiated to start the charging of a strobe capacitor for emitting a light (col. 14, lines 29-33).

Therefore, it would have been obvious to one of ordinary skill in the art to include the teaching of Aoki to modify the combined apparatus of Ejima and Uehara to emit a light based on the light quantity data in other modes when object to be photographed is dark so as to improve image quality.

Regarding claim 5, it is also seen that the quantity of the strobe (flash lamp) is controlled as whether to emit a light (quantity is a certain number) or not to emit a light (quantity = 0).

Regarding claims 9 & 10, see the Examiner's analysis in claims 4 & 5, respectively.

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Regarding claims 14 & 15, see the Examiner's analysis in claims 4 & 5, respectively.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

A handwritten signature in black ink, appearing to read 'Andrew Christensen', with a long horizontal flourish extending to the right.

**ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**